

Date: 3/08/10

Title: Volumes of cones and pyramids

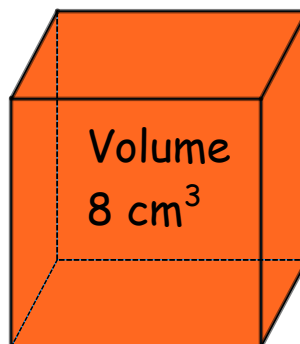
Objective: To discover the **volume formula** for various 3-dimensional objects

Length is measured in one dimension (1-D)

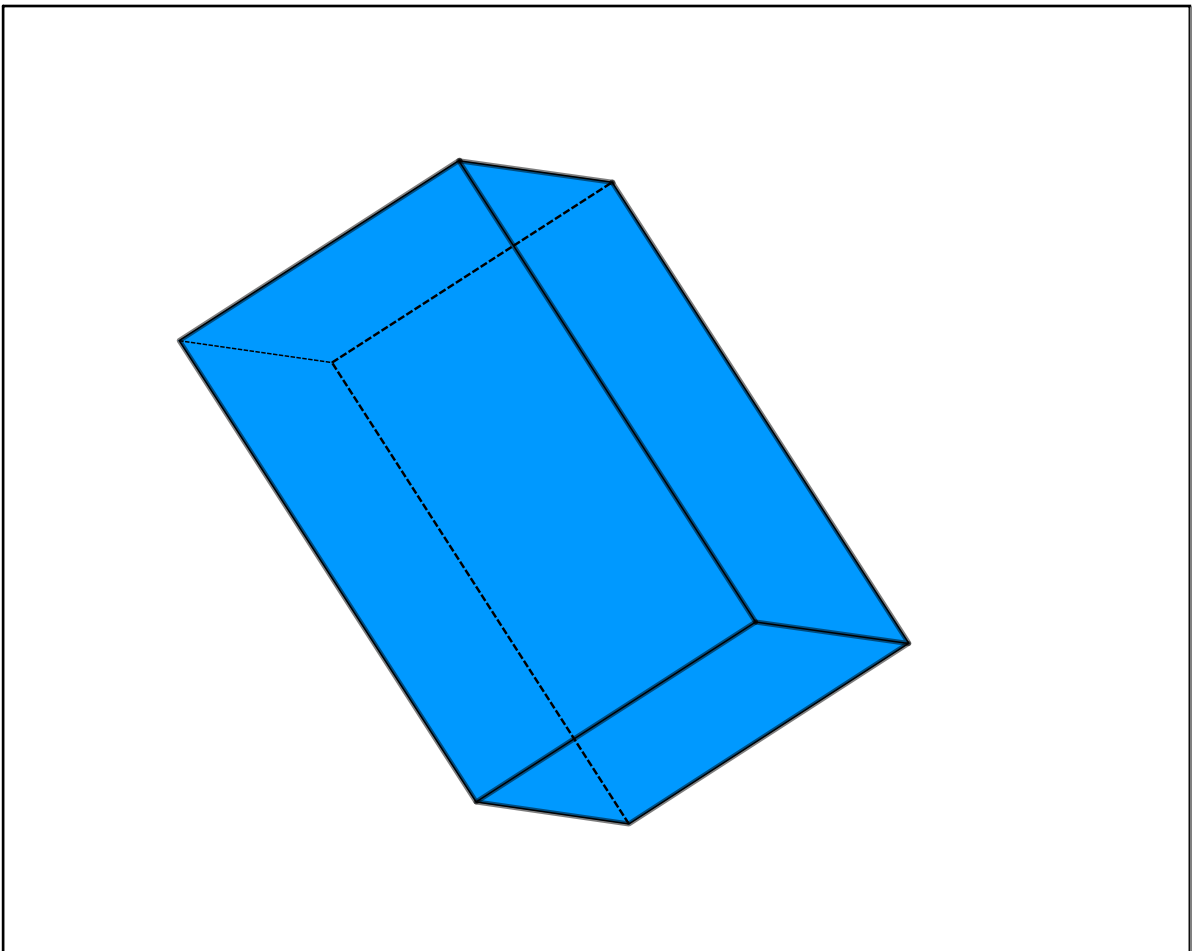
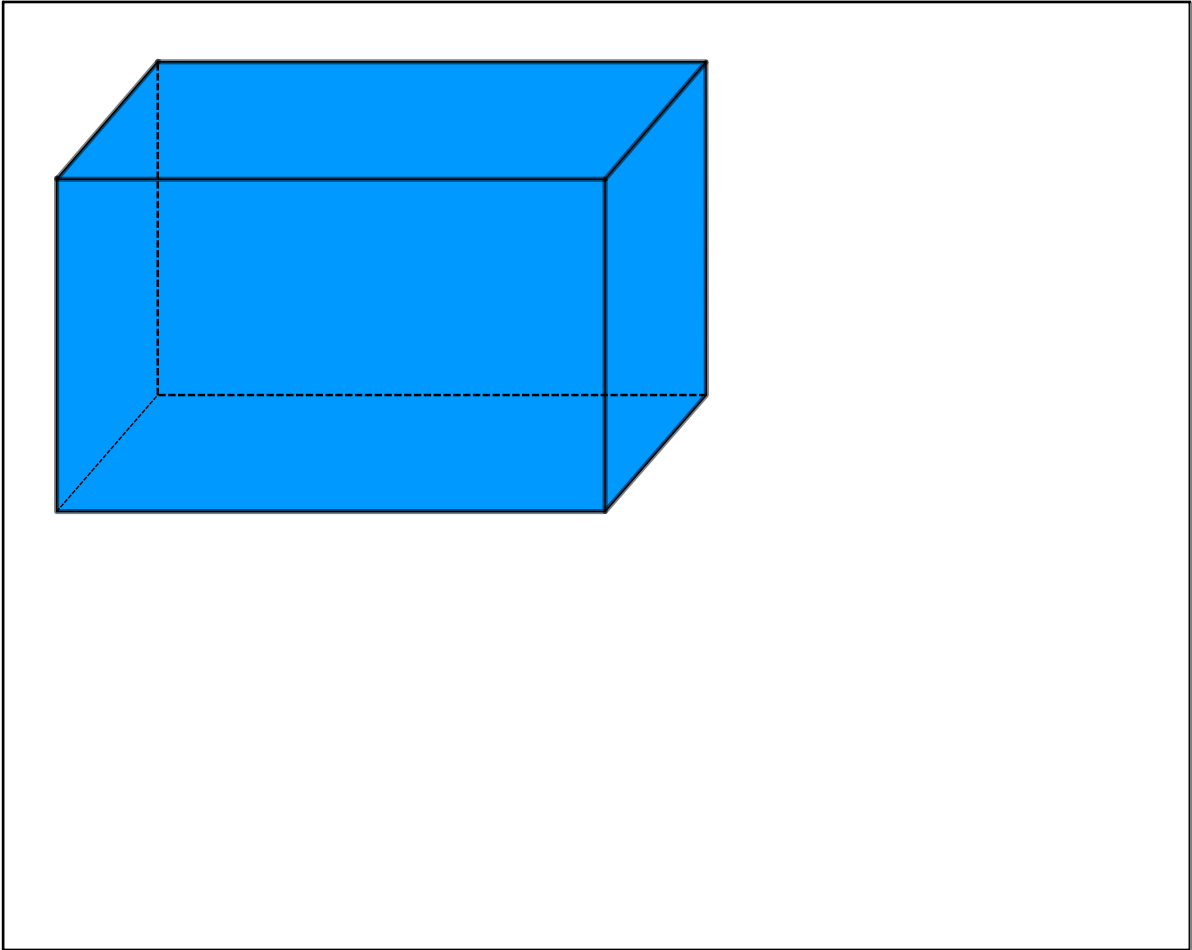
Area is measured in two dimensions (2-D)

Volume is measured in three dimensions (3-D)

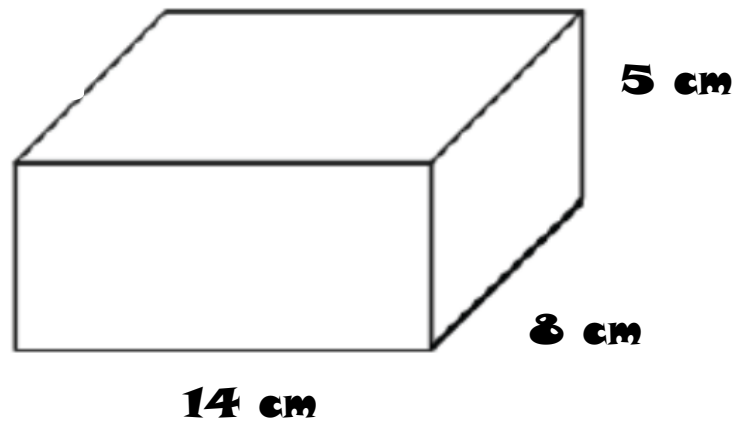
Area
 4 cm^2



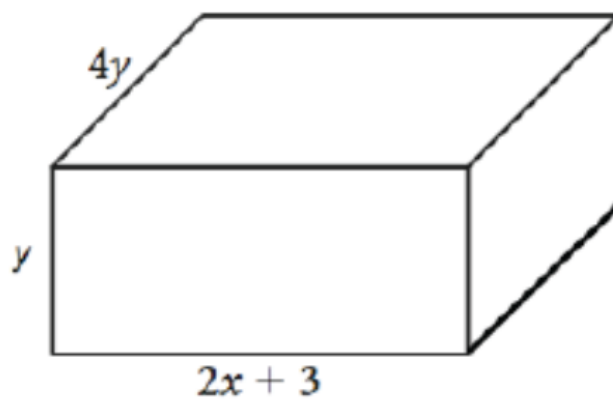
Be sure your units match what you are measuring!

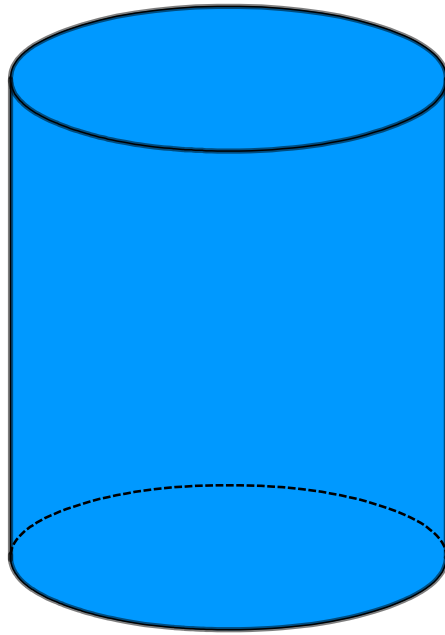


Find the volume of the figure.



Find the volume of the figure.

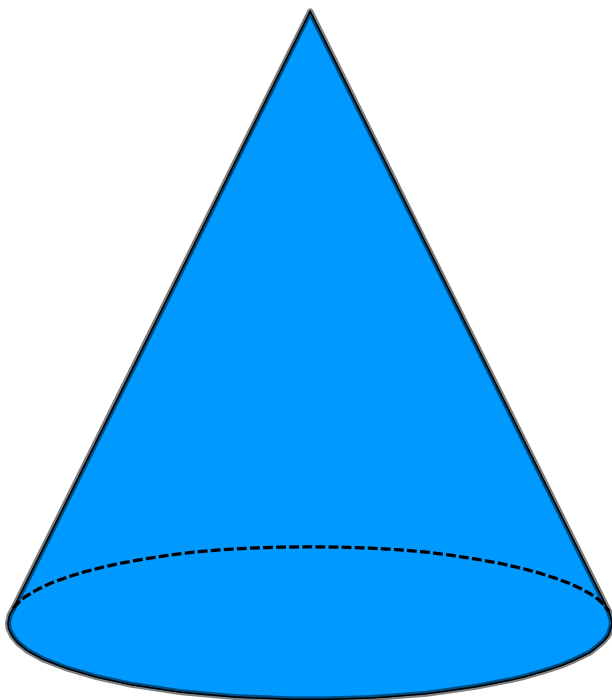
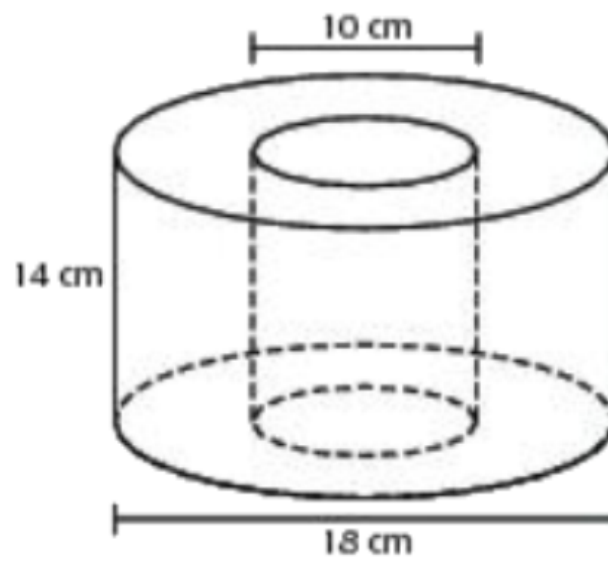


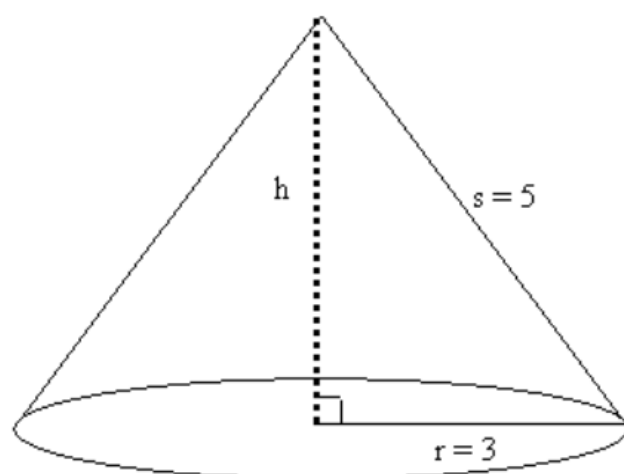
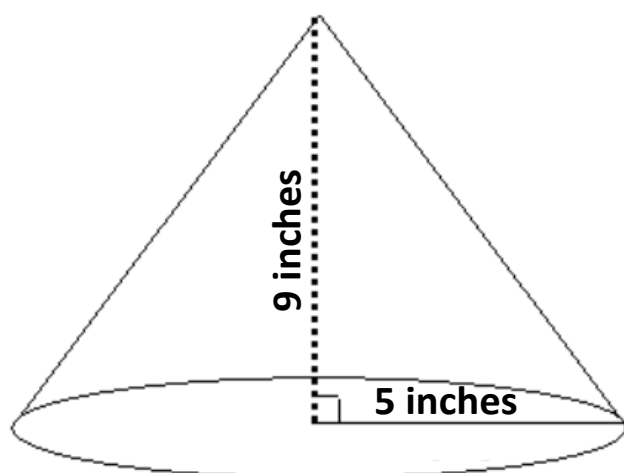


The radius of the oil can is 2 feet. The height of the can is 4 feet.

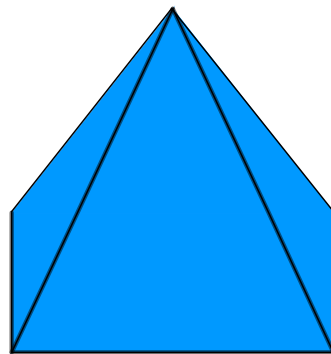
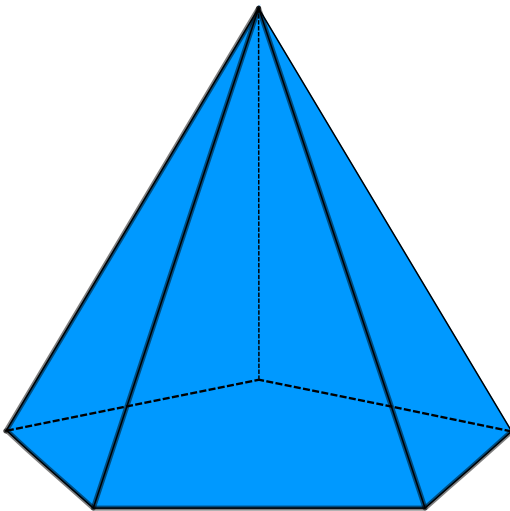
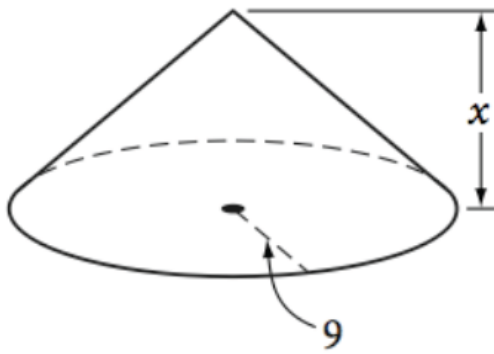
How much oil can the can hold?

Find the volume between the cylinders





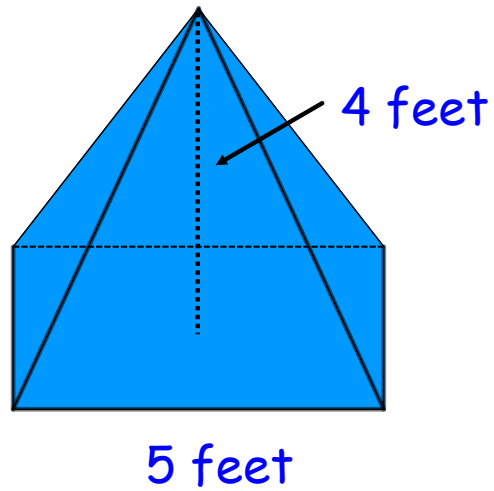
Find the volume of the figure.



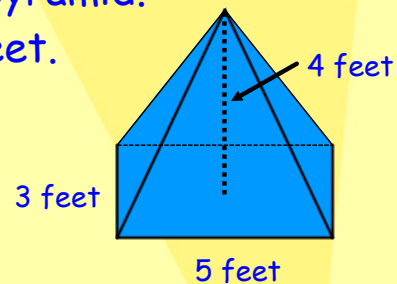
Example: Find the volume of the pyramid.
The base measures 3 feet by 5 feet.
The height is 4 feet.



3 feet



Example: Find the volume of the pyramid.
The base measures 3 feet by 5 feet.
The height is 4 feet.



Solution:

$$\begin{aligned}\text{Volume of Pyramid} &= (\text{Area of the Base}) \times (\text{Area of the Height}) / 3 \\ &= BH/3\end{aligned}$$

$$\begin{aligned}\text{Volume} &= (3 \text{ feet} \times 5 \text{ feet}) \times (4 \text{ feet})/3 \\ &= (15 \text{ feet}^2) \times (4 \text{ feet})/3 \\ &= (60 \text{ feet}^3)/3 \\ &= 20 \text{ feet}^3\end{aligned}$$

Summary: To remember that the volume of a cone is ___ the volume of a cylinder, what will you do?

Out:

Find the volume:

